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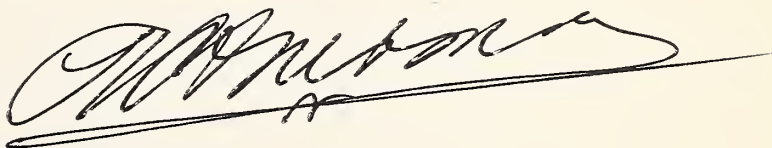




## Foreword

In this study, a close look is taken at Afghanistan's cotton industry—raw cotton production, foreign trade in raw cotton and in cotton textiles, and the domestic textile industry. The study is a part of the Foreign Agricultural Service's continuing program of reporting on competitive agricultural developments in other countries. In making this study through personal observation and research in Afghanistan in late 1964, the author received generous help from many officials of Afghanistan's Government, and of his own and other countries.

Afghanistan is attempting to move directly from a relatively primitive economic system to a modern way of life, and considerable progress has been made in recent years. However, it is only in recent years that the services that collect, assemble, and record statistical information have tried to adopt advanced methods. There are still many gaps in the procedures, and the reliability of some of the data, especially of the older figures, is questionable.

A handwritten signature in dark ink, appearing to read 'R. C. Sherman', with a long horizontal line extending to the right.

R. C. Sherman  
Director  
Cotton Division

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Bagged cotton comes from farm to market by pack-horse.





# COTTON IN AFGHANISTAN

By VERNON L. HARNESS  
Cotton Division

Afghanistan, a completely landlocked country, is about the size of the State of Texas. The country is bounded on the north by the USSR, on the east and the south by Pakistan, and on the west by Iran. The eastern extremity of the country touches Mainland China.

Afghanistan's economy rests heavily upon agriculture, with the main emphasis on food crops and animal husbandry. It has been estimated that more than two-thirds of the population are engaged in farming and livestock production and that more than one-fourth of the total population—of between 12 million and 14 million people—are nomads who depend upon animal husbandry for their livelihood. This emphasis on agriculture belies the natural problems involved: rugged mountain ranges and arid desert plains cover a large part of the country, and rainfall exceeds 10 inches annually in only a few parts, so that virtually all crop production is dependent upon irrigation.

Less than one-half of Afghanistan's area is considered arable, and only one-half of that area is now under cultivation. Yet there is no serious pressure on the land; and in good crop years, Afghanistan is nearly self-sufficient in food grains. Wheat is the country's main crop, while corn, rice, sugar beets, cotton, barley, oilseeds, fruits, and vegetables are important in some areas. Afghanistan's annual per capita income has been estimated at between \$70 and \$90; but this figure is misleading, since about one-half of the economy is not on a monetary system.

## Summary

Cotton production has been gaining in importance, and cotton is now one of the country's most important export commodities, as well as the major source of raw fiber for the domestic textile industry.

Production of cotton moved irregularly higher until the past few years, when output leaped upward to an estimated 175,000 bales annually. (In this report, bales are 480 pounds net.) Domestic consumption has increased steadily and now accounts for about 50,000 bales each year. Most of the nation's cotton exports are normally destined for the USSR, although some cotton is sent also to Czechoslovakia, West Germany, and a few other countries.



Many of Afghanistan's officials want to expand cotton production. A number of problems will have to be solved, however, before Afghanistan can realize further large increases in cotton production. In the near future, significant expansion in cotton acreage can occur only with a shift out of other crops. This seems unlikely unless Afghan officials decide to rely upon additional imports of wheat to replace the grain that would have been grown on the present wheat land.

Since a large increase in cotton area seems unlikely in the near future, a further expansion in cotton production will depend largely upon higher yields. Here, too, serious problems exist. New, improved planting seed is badly needed, yet at present, no work in varietal selection or development is being done at experiment stations in Afghanistan. Most fields are too small for mechanical equipment and very little manure, fertilizer, and insect controls are now used. Moreover, in many locations within the cotton areas, the length of the growing season is relatively short; and freezing weather in the fall often reduces yields substantially.

Over a longer period, it is possible that Afghanistan can increase cotton production significantly. Cotton acreage can be expanded gradually as new irrigation facilities are developed. Higher yields are also possible over the longer run, when there is widespread use of improved seed and of more fertilizer, and other improved cultural practices.

Table 1.—COTTON: Supply and distribution in Afghanistan, annual 1955-64<sup>1</sup>

Season <sup>2</sup>	Stocks Aug. 1	Production	Total Supply	Consumption	Exports
	<i>1,000 bales<sup>3</sup></i>	<i>1,000 bales<sup>3</sup></i>	<i>1,000 bales<sup>3</sup></i>	<i>1,000 bales<sup>3</sup></i>	<i>1,000 bales<sup>3</sup></i>
1955 -----	9	57	66	20	40
1956 -----	6	90	96	21	65
1957 -----	10	70	80	25	45
1958 -----	10	45	55	25	25
1959 -----	5	80	85	35	20
1960 -----	30	80	110	40	30
1961 -----	40	85	125	40	48
1962 -----	37	120	157	45	69
1963 -----	43	175	218	45	100
1964 <sup>3</sup> -----	73	175	248	50	125

<sup>1</sup> Partly estimated. <sup>2</sup> Beginning August 1. <sup>3</sup> 480 pounds net.

<sup>4</sup> Preliminary.

Source: Official and trade statistics, and other information.

Table 2.—COTTON: Area, lint yields, and production in Afghanistan, 1955-64<sup>1</sup>

Season <sup>2</sup>	Area	Yield	Production
	<i>1,000 acres</i>	<i>Lb. per acre</i>	<i>1,000 bales<sup>3</sup></i>
1955 -----	170	161	57
1956 -----	196	220	90
1957 -----	175	192	70
1958 -----	160	135	45
1959 -----	160	240	80
1960 -----	200	192	80
1961 -----	190	215	85
1962 -----	225	256	120
1963 -----	300	280	175
1964 <sup>4</sup> -----	350	240	175

<sup>1</sup> Partly estimated. <sup>2</sup> Beginning August 1. <sup>3</sup> 480 pounds net. <sup>4</sup> Preliminary.

Source: Official and trade statistics, and other information.

## The raw cotton industry

### Acreage and production

Cotton has been grown in Afghanistan since ancient times, but annual production probably did not exceed 30,000 bales before 1950. After 1950 the size of the domestic crop moved irregularly higher until recent years, when production increased sharply. The 1964 crop was estimated at 175,000 bales—about equal to production a year earlier, but 2½ times as large as average annual output during 1955-59.

Larger production of cotton in recent years resulted from a sharp increase in area devoted to cotton, as well as from improved cultural practices on the part of a few advanced farmers. Area devoted to cotton probably remained below 200,000 acres before this decade. In recent years, cotton acreage has increased sharply, and in 1964 an estimated 350,000 acres were harvested. There are about 53,000 cotton growers in Afghanistan. Most of the additional land used for cotton in recent years was formerly devoted to wheat and sugar beets, and concern has been expressed about the reduction in acreage of food crops. Some provinces require that a certain portion of the land in sugar beet areas be planted to beets, but enforcement of this provision has been poor.



Below, left, Afghan farmers inspect field of cotton cultivated by use of modern techniques. Below, right, Afghan farmers sell cotton in village market. Processor buys raw cotton, gins it, sells it to domestic textile industry or exports it.



Many Afghan officials want to expand cotton production to provide more fiber to the USSR under barter arrangements and also to export more for hard currency. The objective is to increase cotton acreage about 5 percent per year until one-fourth of the cultivated land in cotton areas is in cotton. Some sources say that this goal may already have been reached in some locations.

Except for 5,000 to 10,000 bales grown in the Helmand Valley, and smaller quantities in other locations, Afghanistan's cotton production is centered north of the Hindu Kush mountain range. Over one-half of the area used for cotton, and nearly two-thirds of production, is centered in the three provinces of Kunduz, Pul-i-Khumri, and Taluqan. Sizable quantities are produced in Mazar-i-Sharif and Shibarghan, and production is rising in the western province of Herat.

In the Helmand Valley, with its limited current output, there seems to be little chance that cotton production will increase significantly. Relatively little of the land is particularly well suited to cotton and in addition there is strong competition for the land from fruits, food grains, and a number of other crops. Insect damage is reported to be more serious than in the other major production areas and in addition the distance from export points on the Oxus River is greater. Some cotton is carried overland through Pakistan to export destinations. Frequently, frosts stop boll development before optimum yields can be obtained.

## Varieties

The main varieties of cotton grown in Afghanistan are probably Acala 4-42 and Coker 100 Wilt. However, most of the original seed stock was brought into the country many years ago, along with Deltapine and some seed from the USSR. Undoubtedly, these varieties have been interplanted with the Asiatic varieties that have been used for hundreds of years.

Reportedly, the staple length of part of the crop is about 1-1/16 inches. However, the average staple length for the country is probably well below this length because of the almost certain degeneration and mixing with shorter staple cottons. Grading of the cotton that is exported to the USSR is done in the country of destination. The growing season in most of the cotton areas is relatively short, and yields are frequently reduced by abnormally early freezing weather in the fall.

# Production practices

Cotton cultivation in Afghanistan is centered around animal power, although a few tractors are now in use. Virtually all cotton is grown under irrigation, since rainfall in most areas amounts to 10 inches annually or less, and much of the precipitation falls as snow in the winter. For the most part, irrigation is accomplished by flooding small, irregularly shaped fields with water from nearby streams or rivers. Some of these water systems were laid out hundreds of years ago. The fields, fragmented and generally too small for mechanical equipment, are usually surrounded by mud walls 18 to 36 inches high. These walls serve the multiple functions of fence, property marker, and irrigation levee.

Most cotton fields are now planted in rows, although seed is still broadcast in some fields. The planting season is April, May, and June. Only small quantities of organic or commercial fertilizer and of insecticides are used on Afghan cotton. However, insects and disease do not appear to present a serious problem. In the past 2 or 3 years, small quantities of nitrogenous and phosphatic fertilizers have been imported from the USSR. The fertilizer was distributed among the cotton producers, but many operators among these sold their shares to the better informed farmers. A few farmers harvested more than one bale per acre in 1964, with the use of fertilizer and with other improved practices which included the use of tractors and equipment. This yield was double the average for the country.

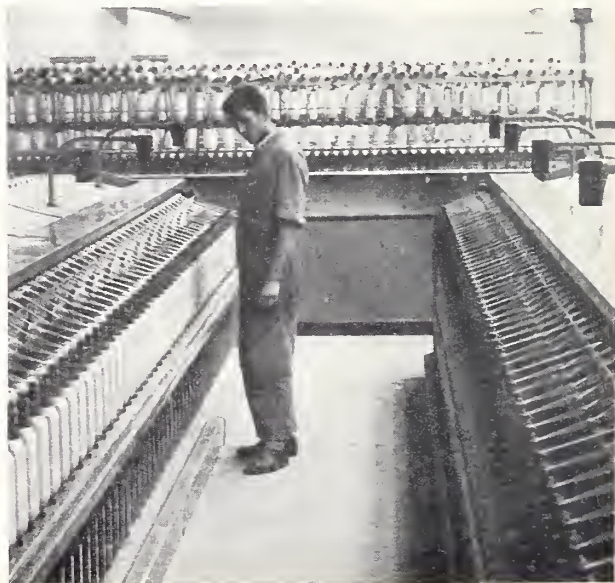
## Harvesting and ginning

In Afghanistan, the ginning and exporting is handled by one large firm and three or four smaller ones. The major part of the harvest takes place in October and November. All cotton is harvested by hand and transported to the gin or to an assembly point. The crop is sold unginned.

The average price received by the farmer in 1964 was between 12 and 15 cents per pound, lint basis. Little attention is given to the quality of the cotton when it is delivered to the gin. Production financing is generally advanced to the farmer by the gins and the farmer sells his crop to the gin that gave him credit. The availability of credit is an important encouragement for cotton production in Afghanistan. In some years, acreage planted to cotton has declined when production credit was delayed or cut.

There are about 12 saw-gins in Afghanistan. Most were imported from the USSR several years ago

Scenes from the modern textile mill at Gulbahar, operating since 1959. Nearly one-fourth of the country's cotton is used in the domestic textile industry.





and are small, inefficient units. However, two or three of the gins are quite new and modern. Some units have been operating on an almost year-round basis to handle the large crops of the past few seasons. An unknown number of small homemade gins are still in use, but probably not more than a few thousand bales of cotton are handled annually by this method. The cotton ginned in this manner is used for padding and for home spinning and weaving.

In addition to the cotton hauled by the farmer directly to a gin, a considerable part of the crop is collected at various points in the areas of production. Generally, the farmer that uses this marketing process will use camels or carts to haul his bagged seed cotton to the nearby collection center, where it is weighted and purchased. The cotton is stored at the collection points until it is needed at a gin, at which time it is hauled there by truck. Unginned cotton is sometimes stored under cover, but most of the baled cotton is stored in the open until it is exported or moved to a domestic textile mill.

## **Foreign trade in cotton**

### **Exports of raw cotton**

Cotton is one of Afghanistan's most important export commodities, and its importance has increased greatly in recent years. Practically all of the cotton exported is transported by truck to various points along the Oxus River, the boundary between Afghanistan and the USSR. The limited dock facilities at the river are utilized to load the cotton onto barges for transport to a USSR railhead.

Transportation, both within Afghanistan and between that country and other countries, is extremely difficult. There are no railroads in Afghanistan and the highways twist through mountain passes or over long stretches of desert. However, roads are being improved and each year travel to most parts of the country is becoming easier. Equipment and spare parts for trucks and autos are expensive and also sometimes difficult to obtain readily, because of Afghanistan's isolated location and shortage of foreign exchange.

A sizable percentage of the cotton exports from Afghanistan are destined for the USSR, although some cotton is shipped also to Czechoslovakia, West Germany, and a few other countries. The Afghan Government derives considerable income from cotton exports. The exporter is required to exchange for local currency all foreign money earned. The exporter receives a substantially lower rate of exchange than the official exchange ratio. The true export price of the cotton is hidden in trade agreements, exchange rates, and government rates to the exporters.

### **Imports of cotton textiles**

Afghanistan is highly dependent upon imports of cotton products for a large part of the country's textile needs. A few countries dominate in supplying the major types of cotton goods to Afghanistan, although relatively small quantities of textiles come from each of a large number of sources. India, the USSR, Pakistan, and Japan supply most of the cotton piecegoods; while Pakistan is the major source of cotton yarn. Imports of clothing come mainly from the United States, Japan, and India. A considerable quantity of the clothing imports consists of used made-up clothing.

## **The cotton textile industry**

The textile industry is one of the oldest in Afghanistan. However, the country depends heavily upon imports for much of the textile requirements. Domestic consumption of raw cotton has increased steadily and now accounts for about 50,000 bales annually. Most of the domestic consumption takes place in the country's two major cotton textile mills. However, a few thousand bales fall into non-mill

use each year. There are about 73,000 cotton spindles in Afghanistan.

The country's largest cotton textile mill began operations in 1959 at Gulbahar. This modern plant, designed and constructed with West German assistance, spins, weaves, dyes, prints, and finishes cotton fabric. About 1,500 looms are installed in this plant. The other major cotton mill has about 500 looms located at Pul-i-Khumri. There is no blending of manmade fibers and cotton in any of the mills. In 1960, a rayon plant began operation. It has a capacity of less than 750,000 yards per year. Afghanistan imports all of the rayon that it uses.

The cotton textile mills have had difficulty in competing in the domestic retail cotton goods market with imported goods. In 1964, the Afghan Government prohibited importation of specified items that competed most directly with domestically produced goods. Despite increased mill consumption and rising imports of textiles, Afghanistan consumes on the average less cotton textiles than almost any other

Table 3.—COTTON TEXTILES: Imports into Afghanistan, by type and country of origin, annual 1957-63<sup>1</sup>

Type and country	1957	1958	1959	1960	1961	1962	Mar.-Oct. 1963
Cotton piece goods:	1,000 sq. yd.	1,000 sq. yd.	1,000 sq. yd.	1,000 sq. yd.	1,000 sq. yd.	1,000 sq. yd.	1,000 sq. yd.
India	14,670	19,464	21,134	26,236	52,097	23,136	11,724
USSR	17,168	19,224	13,436	8,101	42,567	14,714	7,165
Japan	1,216	2,549	1,610	427	547	591	681
Pakistan	1,978	2,076	1,474	3,034	1,783	522	155
United States	124	64	4	14	56	254	5
Czechoslovakia	0	232	115	0	109	48	18
Lebanon	21	22	19	8	15	35	7
Germany, West	16	17	10	32	14	10	32
United Kingdom	61	219	54	39	26	2	27
Iran	0	( <sup>2</sup> )	( <sup>2</sup> )	2	165	1	29
Others	706	202	31	46	9	92	47
Total	35,960	44,069	37,887	37,939	97,388	39,405	19,890
Cotton yarn <sup>3</sup> :	1,000 lb.	1,000 lb.	1,000 lb.	1,000 lb.	1,000 lb.	1,000 lb.	1,000 lb.
India	30	11	58	90	39	127	48
Pakistan	572	876	1,012	2,447	861	59	91
United Kingdom	15	( <sup>2</sup> )	2	0	0	12	( <sup>2</sup> )
Japan	7	7	( <sup>2</sup> )	27	23	11	50
USSR	29	9	152	17	2	14	170
Italy	47	0	2	( <sup>2</sup> )	0	2	22
Germany, West	12	14	( <sup>2</sup> )	0	0	0	0
Others	1	32	0	4	2	1	9
Total	713	949	1,226	2,585	927	226	390
Clothing <sup>4</sup> :	1,000 dol. <sup>5</sup>	1,000 dol. <sup>5</sup>	1,000 dol. <sup>5</sup>	1,000 dol. <sup>5</sup>	1,000 dol. <sup>5</sup>	1,000 dol. <sup>5</sup>	1,000 dol. <sup>5</sup>
United States	1,061	1,205	1,474	2,951	2,362	2,618	1,021
Japan	379	580	365	528	1,256	1,058	402
Germany, West	46	71	94	70	89	320	63
Lebanon	22	36	41	35	128	281	112
India	372	168	198	145	260	200	120
United Kingdom	77	116	72	27	47	63	25
Hong Kong	5	2	12	24	26	62	12
USSR	256	279	145	16	33	51	53
Czechoslovakia	45	91	18	16	9	18	0
Italy	10	2	7	21	17	12	8
Pakistan	272	133	107	56	40	1	4
Others	20	27	17	15	16	115	42
Total	2,565	2,710	2,550	3,904	4,283	4,799	1,862

<sup>1</sup> Season beginning March 21. <sup>2</sup> Less than 500 square yards or pounds. <sup>3</sup> Not including considerable quantities of imported yarn that were reported in terms such as gross. <sup>4</sup> Listed in Afghanistan trade statistics as "Total clothing except fur clothing." This category includes small quantities of leather clothing, rubberized material, wool headwear, gloves, mittens, scarves, neckties, shirts for dressing, handkerchiefs, and watchbands, in addition to the clothing items normally found in this category. <sup>5</sup> An exchange rate of 21 afghanis per \$1 was used before March 1963; a rate of 45 afghanis per \$1 was used from March to October 1963.

Source: Annual publications of *Imports of Merchandise into Afghanistan*, Ministry of Commerce.

country in the world. Precise data are not available, but average per capita use of cotton textiles is probably about 3 pounds per year. However, per capita use has increased considerably in recent years; and Afghanistan can be expected to use more cotton and cotton products in the future as a result of larger population and some improvement in personal incomes.

Table 4.—COTTON: Exports<sup>1</sup> from Afghanistan by country of destination, averages 1951-54 and 1955-59, and annual 1960-62<sup>2</sup>

Country	Average		1960-61	1961-62	1962-63
	1951-54	1955-59			
	<i>1,000 bales<sup>3</sup></i>	<i>1,000 bales<sup>3</sup></i>	<i>1,000 bales<sup>3</sup></i>	<i>1,000 bales<sup>3</sup></i>	<i>1,000 bales<sup>3</sup></i>
USSR -----	40	<sup>5</sup> 23	11	34	44
Czechoslovakia -----	0	5	11	9	6
Germany, West -----	11	2	8	5	0
Poland -----	0	( <sup>6</sup> )	0	2	2
Japan -----	6	6	0	0	0
Others -----	4	1	0	3	2
Total -----	21	37	30	53	54

<sup>1</sup> Statistics from several importing countries indicate that exports from Afghanistan were considerably higher than shown in this table, especially in some of the earlier years. <sup>2</sup> Year beginning March 21. <sup>3</sup> 480 pounds net. <sup>4</sup> USSR import data show annual average imports of about 13,000 bales. <sup>5</sup> USSR import data show annual average imports of about 32,000 bales. <sup>6</sup> Less than 500 bales.

Source: Annual publications of *Exports of Merchandise from Afghanistan*, Ministry of Commerce; U.S. representatives abroad; and other information.



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